REMARKS

This responds to the Office Action mailed on October 31, 2007.

Claims 1, 9 and 17 are amended, claims 3-4, 11-12 and 19-20 are canceled, and no claims are added; as a result, claims 1-2, 5-10, 13-18 and 21-24 remain pending in this application.

Double Patenting Rejection

Claims 1-3, 5-9, 11, 13-17, 19, 21-24 were provisionally rejected on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 3-8, 10-15, 17-21 of co-pending Application No. 10/643,769 and in view of Gillespie (US 6,269,391).

Applicant does not admit that there are grounds for an obviousness-type double patenting rejection based on the claims 1, 3-8, 10-15, 17-21 of co-pending Application No. 10/643,769 and in view of Gillespie. However upon an indication of otherwise allowable subject matter and in the event this rejection is maintained, Applicants will provide a Terminal Disclaimer.

§103 Rejection of the Claims

Claims 1-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillespie (US 6,269,391) and in view of Alverson et al. (US 6,952,827).

Claims 1-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillespie and in view of Gail et al. (Tera Hardware-Software Cooperation, ACM, 1997, pages 1-16).

The determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. *See Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.,* 411 F.3d 1332, 1336-37 (Fed.Cir. 2005). The legal conclusion that a claim is obvious within § 103(a) depends on at least four underlying factual issues set forth in *Graham v. John Deere Co. of Kansas City,* 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). The underlying factual issues set forth in *Graham* are as follows: (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) evaluation of any relevant secondary considerations.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE   Page 7
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Filing Date: August 18, 2003
Title: SCHEDULING SYNCHRONIZATION OF PROGRAMS RUNNING AS STREAMS ON MULTIPLE PROCESSORS

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir.1988). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested, by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) ; M.P.E.P. § 2143.03. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ; M.P.E.P. § 2143.03. As part of establishing a *prima facie* case of obviousness, the Examiner's analysis must show that some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.* To facilitate review, this analysis should be made explicit. *KSR Int'l v. Teleflex Inc., et al.*, 127 S.Ct. 1727; 167 L.Ed 2d 705; 82 USPQ2d 1385 (2007) (citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006)). Because there are differences between the claims at issue and the cited references, Applicant respectfully traverses the rejection.

For example, claims 1, 9 and 17 recite a plurality of multiple processor units, where each of the multiple processor units has a plurality of processors. While Gillespie, Alverson and Gail may disclose multiple processors, they do not disclose multiple processors further arranged into a plurality of multiple processor units.

Further, claim 1 as amended recites "migrating one or more the plurality of program units from one or more of the plurality of multiple processing units to one of the plurality of multiple processing units such that the plurality of program units associated with the process are executing on the same multiple processor unit." Claims 9 and 17 as amended recite similar language. In the rejection of now canceled claim 4, the Office Action asserts that Gillespie, at column 1, lines 41-44 teaches migrating threads executing on a second multiple processor unit to a first multiple processor unit. Applicant respectfully disagrees with this interpretation of Gillespie. The cited section of Gillespie merely states a problem associated with multiple processor systems, that is that executing threads on multiple processors can lead to cache thrashing. The cited section of Gillespie provides no details regarding how such a problem may be solved. As a result, the cited section of Gillespie does not teach migrating threads.

Gillespie's solution to the cache-thrashing problem appears to be binding a thread to a particular processor (see e.g. column 6, lines 39-47). However, binding a thread to a particular processor is different from migrating threads from one processor to another. Further, binding is not as flexible as the systems and methods of Applicant's claims. As claimed, program units such as threads may execute on any available multiple processing unit until a context shift event occurs, when the threads are migrated such that the threads execute on the same multiple processor unit. Applicant has reviewed Alverson and Gail, and can find not teaching of migrating threads from a plurality of multiple processor units to a single multiple processor unit upon the occurrence of a context shift event.

Additionally, claim 9 recites that the multiple processors on a multiple processing unit share a cache memory. Applicant has reviewed Gillespie, Alverson and Gail and can find no disclosure of multiple processors sharing a cache memory.

For the reasons above, none of Gillespie, Alverson or Gail, alone or in combination, disclose each and every element of claims 1, 9 and 17. As a result, there are differences between Gillespie in combination with Alverson or Gail. Thus claims 1, 9 and 17 are not obvious with respect to Gillespie and either Alverson or Gail. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 1, 9 and 17.

Claims 3-4, 11-12 and 19-20 have been canceled in this response, therefore the rejections of claims 3-4, 11-12 and 19-20 is believed moot.

Claims 2 and 5-8 depend from claim 1; claims 10 and 13-16 depend from claim 9; and claims 18 and 21-24 depend from claim 17. These dependent claims inherit the elements of their respective base claims and are therefore believed to be allowable for at least the reasons discussed above regarding their respective base claims.

Reservation of Rights

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or

legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

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Title: SCHEDULING SYNCHRONIZATION OF PROGRAMS RUNNING AS STREAMS ON MULTIPLE PROCESSORS
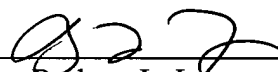
CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6954 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
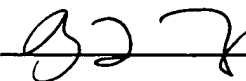P.O. Box 2938
Minneapolis, MN 55402
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Date ___Apr. 30, 2008___   By _____
                                   Rodney L. Lacy
                                   Reg. No. 41,136

CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this _30th_ day of April, 2008.

RODNEY L. LACY
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Name   Signature